



BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Certificate in Information Technology Pearson BTEC International Level 3 Subsidiary Diploma in Information Technology Pearson BTEC International Level 3 Foundation Diploma in Information Technology Pearson BTEC International Level 3 Diploma in Information Technology Pearson BTEC International Level 3 Extended Diploma in Information Technology
Unit number and title	Unit 21: Introduction to Artificial Intelligence (AI)
Learning aim(s)	Learning aim B: Plan and prepare an AI solution to meet identified needs Learning aim C: Develop an AI solution to meet identified needs
Assignment title	Implementing an AI solution
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	<p>You have recently started an internship at a small independent software development company. The company currently develops bespoke apps and computer systems for other small companies. The owner of the company is considering expanding and diversifying the company by developing artificial intelligence (AI) solutions.</p> <p>After reading your report (Assignment 1), the owner of the company wants to explore the development of AI solutions further. They have asked you to create an AI solution that demonstrates one area of AI.</p> <p>The owner has made these suggestions for possible AI solutions to develop, but you may wish to choose your own:</p> <ul style="list-style-type: none">• handwritten digit (number) detection• a chatbot or social media bot• sales/revenue forecasting• automation of routine tasks.
---------------------------------------	--



Task 1	<p>Choose an area of AI that you wish to demonstrate. You can select one of the examples listed in the vocational context or choose your own.</p> <p>First you must define the objectives of the AI project. You should include:</p> <ul style="list-style-type: none">• a summary of the overall purpose of the project• a list of success criteria/functional requirements against which you can evaluate the solution. <p>Next you should gather and prepare data that will be used to develop your AI solution. You should:</p> <ul style="list-style-type: none">• identify and access suitable sources of data• prepare the data you have collected so that it is ready to use in the solution• divide the data into training, validation and testing data sets.
Checklist of evidence required	<p>Project objectives</p> <p>Training, validation and testing data sets</p>

Criteria covered by this task:	
Criteria reference	To achieve the criteria you must show that you are able to:
B.P3	Define the objectives of an AI project.
B.P4	Gather and prepare appropriate data sets for an AI solution.

Task 2	<p>Develop your AI solution. You should select a model for your solution that uses appropriate:</p> <ul style="list-style-type: none">• supervised or unsupervised learning to train the model• mathematical and statistical concepts to produce valid outcomes• computing tools and resources (e.g. programming languages, IDEs, cloud resources, dashboards). <p>During development, ensure that you review the solution (including data sets) regularly.</p> <p>Produce a report that details how you used the review to refine/optimize the data sets and AI solution to improve the quality of outcomes.</p> <p>Your report should also include an evaluation of the extent to which the AI solution meets the planned objectives. Your evaluation should consider:</p> <ul style="list-style-type: none">• how the chosen data impacted on the quality
---------------	--



	<p>of the solution and outcomes</p> <ul style="list-style-type: none">• how your chosen model and related mathematical and statistical approaches affect the quality and accuracy of results• the associated benefits, risks, and drawbacks of the solution. <p>You should support any judgements you make in your evaluation with specific examples.</p>
Checklist of evidence required	<ul style="list-style-type: none">• Initial and refined versions of data sets• Initial and refined versions of the AI solution• Report detailing the review and evaluation of the project

Criteria covered by this task:	
Criteria reference	To achieve the criteria you must show that you are able to:
BC.D2	Evaluate the effectiveness of the AI solution
B.M2	Review and refine data sets to optimise the quality of an AI solution
C.M3	Test and refine the AI solution
C.P5	Develop an AI solution using an appropriate language

Sources of information to support you with this assignment	https://www.pearson.com/uk/web/learning-hub/non-uk-educators/online-courses-for-your-learners/digital-technologies-for-non-experts/artificial-intelligence-demystified-non-uk.html
Other assessment materials attached to this assignment brief	